ACTION NO. _____

ITEM NO. E-1 BOS

AT A REGULAR MEETING OF THE BOARD OF SUPERVISORS OF ROANOKE COUNTY, VIRGINIA HELD AT THE ROANOKE COUNTY ADMINISTRATION CENTER

MEETING DATE: March 8, 2011

AGENDA ITEM: Ordinance readopting Ordinance 022211-4 to amend the Roanoke County Zoning Ordinance by the addition of amendments relating to Small Wind Energy Systems

SUBMITTED BY: Paul M. Mahoney
County Attorney

COUNTY ADMINISTRATOR'S COMMENTS:

SUMMARY OF INFORMATION:

On February 22, 2011, the Board of Supervisors held a public hearing on an ordinance amending the Roanoke County Zoning Ordinance by the addition of amendments relating to small wind energy systems. After the citizens spoke at this public hearing, the Board adopted numerous amendments to the draft ordinance that was in the published agenda.

Due to the complex nature of these numerous amendments, and to comply with the procedures under Roberts Rules of Order, it is requested that the Board review, reaffirm and readopt this ordinance. The purpose of this requested action is to clarify the Board's previous actions, and to assure that this ordinance accurately reflects the intentions of the Board in its consideration and adoption of these amendments.

STAFF RECOMMENDATION:

It is recommended that the Board reaffirm and readopt this ordinance.

AT A REGULAR MEETING OF THE BOARD OF SUPERVISORS OF ROANOKE COUNTY, VIRGINIA HELD AT THE ROANOKE COUNTY ADMINISTRATION CENTER ON TUESDAY, MARCH 8, 2011

ORDINANCE READOPTING ORDINANCE 022211-4 TO AMEND THE ROANOKE COUNTY ZONING ORDINANCE BY THE ADDITION OF AMENDMENTS RELATING TO SMALL WIND ENERGY SYSTEMS

WHEREAS, in June of 2009 the Roanoke County Planning Commission and Community Development staff identified various provisions of the Roanoke County Zoning Ordinance to review and update as provided in Section 30-14 of the Roanoke County Code and Section 15.2-2285 of the Code of Virginia; and,

WHEREAS, wind energy was one topic identified not only by County staff but also requested by citizens for further research to develop provisions to recommend be incorporated into the Zoning Ordinance; and,

WHEREAS, the Planning Commission has reviewed wind energy issues in ten work sessions over the past eighteen months, and on January 24, 2011, completed its recommendations for proposed amendments incorporating small wind energy systems; and,

WHEREAS, wind energy is a renewable source of alternative energy and alternative sources of energy are beneficial to Roanoke County, the Commonwealth of Virginia and the United States of America; and,

WHEREAS, public necessity, convenience, general welfare and good zoning practice are valid public purposes for such recommendations by the Planning Commission and action by the Board of Supervisors; and,

WHEREAS, the Planning Commission held its public hearing on these proposed amendments on February 1, 2011, after legal notice and advertisement as required by law; and,

WHEREAS, the Board of Supervisors held its first reading on this ordinance on February 8, 2011, and its second reading and public hearing after legal notice and advertisement as required by law on February 22, 2011; and

WHEREAS, the Board of Supervisors hereby reaffirms and readopts this ordinance on March 8, 2011.

NOW, THEREFORE, be it ordained by the Board of Supervisors of Roanoke County as follows:

1. That the following sections of the Roanoke County Zoning Ordinance be amended to read and provide as follows:

Article II, Section 30-28 – Definitions and Use Types

Anemometer: An instrument for measuring wind force and velocity.
Net metering: A program offered by a utility company that allows customers with eligible renewable energy systems to offset a portion of the electric energy provided by the utility.
Rated nameplate capacity: The maximum rated output of electric power production equipment specified by the manufacturer.
Shadow flicker: The visible flicker effect that occurs when rotating turbine blades cast shadows on the ground and nearby structures, causing the repeating pattern of light and shadow.
Wind energy: Power generated by converting the mechanical energy of wind into electrical energy through use of a wind generator.
Wind energy conversion system: An electric generating device, the main purpose of which is to convert the kinetic energy available in the wind to mechanical energy, consisting of one or more wind turbines, a tower, associated control or conversion electronics and other accessory structures and buildings, including substations, electrical infrastructure, transmission on lines and other appurtenant structures and facilities.
Wind energy system, micro (building integrated): A building-mounted wind energy conversion system that has a manufacturer's rating of 10 kW or less.

Wind energy system, small: A wind energy conversion system consisting of a single wind turbine, a tower, and associated control or conversion electronics, having a rated nameplate capacity of not more than 50 kilowatts (kW) for residential uses and not more than 100 kW for other uses. For the purpose of residential net metering, Virginia Code §56-594B limits the electrical generating facility to a capacity of not more than 10 kilowatts (kW).
Wind energy tower: The structure on which the wind turbine is mounted.
Wind monitoring or temporary meteorological tower: A temporary tower equipped with devices to measure wind speeds and direction; used to determine how much wind power a site can be expected to generate.
Wind turbine: A wind energy conversion device that converts wind energy into electricity through use of a wind turbine generator; typically having one, two or three blades, nacelle, rotor, generator, controller and associated mechanical and electrical conversion components mounted on top of a tower.
Windmill: A machine designed to convert the energy of the wind into more useful forms of energy, such as grinding, pumping, etc., using rotating blades driven by the force of the wind to turn mechanical equipment to do physical work, without producing energy.

Article III – District Regulations

SEC. 30-32. - AG-3 AGRICULTURAL/RURAL PRESERVE DISTRICT.

Sec. 30-32-2. - Permitted Uses.

(A) Permitted By Right

6. *Miscellaneous Uses*

Wind Energy System, Small*

SEC. 30-33. - AG-1 AGRICULTURAL/RURAL LOW DENSITY DISTRICT.

Sec. 30-33-2. - Permitted Uses.

(A) Permitted By Right

5. *Miscellaneous Uses*

Wind Energy System, Small*

SEC. 30-34. - AR AGRICULTURAL/RESIDENTIAL DISTRICT.

Sec. 30-34-2. - Permitted Uses.

(A) Permitted By Right

5. *Miscellaneous Uses*

Wind Energy System, Small*

SEC. 30-36. - AV AGRICULTURAL/VILLAGE CENTER DISTRICT.

Sec. 30-36-2. - Permitted Uses.

(A) Permitted By Right

6. *Miscellaneous Uses*

Wind Energy System, Small*

SEC. 30-41. - R-1 LOW DENSITY RESIDENTIAL DISTRICT.

Sec. 30-41-2. - Permitted uses.

(A) Permitted By Right

4. *Miscellaneous Uses*

Wind Energy System, Small*

SEC. 30-42. - R-2 MEDIUM DENSITY RESIDENTIAL DISTRICT.

Sec. 30-42-2. - Permitted Uses.

(A) Permitted By Right

3. *Miscellaneous Uses*

Wind Energy System, Small*

SEC. 30-45. - R-3 MEDIUM DENSITY MULTI-FAMILY RESIDENTIAL DISTRICT.

Sec. 30-45-2. - Permitted Uses.

(B) Special Use Permit

4. *Miscellaneous Uses*

Wind Energy System, Small*

SEC. 30-46. - R-4 HIGH DENSITY MULTI-FAMILY RESIDENTIAL DISTRICT.

Sec. 30-46-2. - Permitted Uses.

(B) Special Use Permit

4. *Miscellaneous Uses*

Wind Energy System, Small*

SEC. 30-61. - I-1 LOW INTENSITY INDUSTRIAL DISTRICT.

Sec. 30-61-2. - Permitted Uses.

(A) Permitted By Right

6. *Miscellaneous Uses*

Wind Energy System, Small*

SEC. 30-62. - I-2 HIGH INTENSITY INDUSTRIAL DISTRICT.

Sec. 30-62-2. - Permitted Uses.

(A) Permitted By Right

6. *Miscellaneous Uses*

Wind Energy System, Small*

SEC. 30-71. - EXPLORE PARK DISTRICT.*

Sec. 30-71-3. - Permitted Uses.

(D) The following uses are allowed only by special use permit pursuant to section 30-19. An asterisk (*) indicates additional, modified or more stringent standards as listed in article IV, use and design standards, for those specific uses.

1. Miscellaneous Uses

Wind Energy System, Small*

Article IV – Use and Design Standards

SECTION 30-87-6. Wind Energy System, Small

(A) Purpose and Intent: The purpose of this section is to regulate the placement, construction, and modification of small wind energy systems while promoting the safe, effective and efficient use of small wind energy systems and not unreasonably interfering with the development of independent renewable energy sources. The requirements set forth in this section shall govern the sitting of small wind energy systems used to generate electricity or perform work which may be connected to the utility grid pursuant to Virginia's net metering laws or serve as an independent source of energy.

(B) General Standards:

1. <u>Type of Tower</u>: The tower component of any small wind energy system shall be one that is recommended and certified by the manufacturer.

2. <u>Tower Color:</u> Small wind energy system towers shall maintain a galvanized steel finish, unless Federal Aviation Administration (FAA) standards require otherwise. The zoning administrator may allow a property owner, who is attempting to conform the tower to the surrounding environment and architecture, to paint the tower to reduce its visual obtrusiveness. A photo simulation may be required by the zoning administrator.

3. <u>System Height:</u>

(a) System height is defined as the vertical distance measured from average grade at the base of the tower or other supporting structure, whether mounted on the ground or on a rooftop, to the highest point of the turbine rotor or tip of the turbine blade when extended to its highest elevation.

Parcel Size (Acres)	*Maximum System Height*
Up to 1.00	*80 feet*
Greater than 1.00	*100 feet*

(b) A small wind energy system may exceed the height limitations listed in this section if a special use permit has been obtained by the property owner.

(c) The applicant shall provide evidence that the proposed height of the small wind energy system does not exceed the height recommended by the manufacturer or distributor of the system.

4. *Setbacks: The small wind energy system shall be set back a distance at least equal to one hundred ten percent (110%) of the height of the wind energy system from all property lines, and roadways. The setbacks for a small wind energy system may be reduced if a special use permit has been obtained by the property owner. Setbacks established in this section or through a special use permit shall supersede any other setback requirement in the zoning ordinance.*
5. *Ground Clearance/Safety: The minimum distance between the ground and any protruding blades utilized on a small wind energy system shall be 20 feet, as measured at the lowest point of the arc of the blades. The lowest point of the arc of the blade shall also be twenty (20) feet above the height of any structure within one hundred fifty (150) feet of the base. The supporting tower shall also be enclosed with a 6-foot tall fence or the base of the tower shall not be climbable for a distance of 12 feet.*
6. *Number of Towers: More than one tower may be permitted on an individual piece of property provided that all setback requirements have been met.*
7. *Noise: The wind energy system shall not exceed 60 decibels (dBA), as measured at the closest property line, except during short-term events such as severe windstorms.*
8. *Lighting: No lighting shall be incorporated on the tower or wind turbine unless required by the Federal Aviation Administration (FAA) or other appropriate authority.*
9. *Advertising: Signs, writing, pictures, flags, streamers, or other decorative items that may be construed as advertising are prohibited on wind energy systems, except as follows:*
   (a) Manufacturer's or installer's identification on the wind turbine, and
   (b) Appropriate warning signs and placards.
10. *Speed Controls: A small wind energy system shall be equipped with manual (electronic or mechanical) and automatic overspeed controls to limit the blade rotation speed to within the design limits of the small wind energy system.*
11. *Electric Utility Notification: The applicant shall provide evidence that the provider of electric utility service to the site has been informed of the applicant's intent to install an interconnected customer-owned electricity generator, unless the applicant intends, and so states on the application, that the system will not be connected to the electricity grid.*

12. ***Use: A small wind energy system shall be considered an accessory use. The applicant shall provide information demonstrating that the small wind energy system will be used primarily to reduce on-site consumption of electricity.***

13. ***Wind Monitoring or Temporary Meteorological Towers: Small wind energy systems shall comply with the following:***
    - ***(a) A wind monitoring meteorological tower with an anemometer and other wind measuring devices may be installed with the issuance of a zoning permit for the purpose of monitoring wind and other environmental conditions relevant to sitting wind energy systems and used to determine how much wind power a site can be expected to generate. The zoning permit shall be valid for a period of one year.***
    - ***(b) No wind monitoring meteorological tower for small wind energy systems may rise more than the allowable height of the proposed small wind energy system and shall meet the setback requirements in Sec. 30-87-6(B)4 of this ordinance.***

14. ***Removal of Defective or Abandoned Small Wind Energy Systems:***
    - ***(a) Each year following the issuance of a zoning permit for a small wind energy system, the owner of such small wind energy system shall submit to the Zoning Administrator an affidavit that verifies continued operation of the wind turbine use and compliance with all requirements of this ordinance and other applicable regulations. Failure to submit required documentation shall result in the Zoning Administrator considering the small wind energy system abandoned. The owner of the small wind energy system shall remove the small wind energy system within ninety (90) days of receipt of notice from the County instructing the owner to remove the abandoned small wind energy system.***
    - ***(b) Any small wind energy system and micro wind energy system found to be unsafe or inoperable by the building official shall be repaired by the owner to meet federal, state and local safety standards or removed within ninety (90) days.***

15. ***Compliance with Other Regulations: Small wind energy systems shall comply with all applicable local, state and federal regulations.***

SECTION 30-88. Accessory Uses and Structures

(A) As defined in section 30-28, accessory uses and structures may be commonly found and associated with principal use types. Principal uses which are allowed by right or by special use may include accessory uses and activities, provided such accessory uses and activities are appropriate and incidental to the principal use, and provided they are designed and located in accord with the intent and provisions of this ordinance.

Sec. 30-88-1. Accessory Uses: Agricultural Use Types.

(A) Agricultural use types may include the following accessory uses, activities or structures on the same site or lot:

5. Micro wind energy systems that project no more than 15 feet above the highest point on the structure and complies with the height requirement of the zoning district.

Sec. 30-88-2. Accessory Uses: Residential Use Types.

(A) Residential use types may include the following accessory uses, activities or structures on the same site or lot:

8. Micro wind energy systems that project no more than 15 feet above the highest point on the structure and complies with the height requirement of the zoning district.

Sec. 30-88-3. Accessory Uses: Civic Use Types.

(A) Civic use types may include the following accessory uses, activities or structures on the same site or lot:

7. Micro wind energy systems that project no more than 15 feet above the highest point on the structure and complies with the height requirement of the zoning district.

Sec. 30-88-4. Accessory Uses: Office Use Types.

(A) Office use types may include the following accessory uses, activities or structures on the same site or lot:

7. Micro wind energy systems that project no more than 15 feet above the highest point on the structure and complies with the height requirement of the zoning district.

Sec. 30-88-5. Accessory Uses: Commercial Use Types.

(A) Commercial use types may include the following accessory uses, activities or structures on the same site or lot:

6. Micro wind energy systems that project no more than 15 feet above the highest point on the structure and complies with the height requirement of the zoning district.

Sec. 30-88-6. Accessory Uses: Industrial Use Types.

(A) Industrial use types may include the following accessory uses, activities or structures on the same site or lot:

9. ***Micro wind energy systems that project no more than 15 feet above the highest point on the structure and complies with the height requirement of the zoning district.***

2. That these amendments shall be in full force and effective from and after the date of their adoption.